

# TX-3570W24FSA4-NU4CD-01

## PRODUCT SPECIFICATION

### Features:

- ◆Excellent transiting heat from LED chip operating under 2000mA.
- ◆Ceramic eutectic package allows it to have minimal internal stress and excellent thermal path.
- ◆Flip chip coated with package, the output of lumen is stable.
- ◆High luminous output.
- ◆Encapsulated materials are environmentally certified and meet environmental requirements.

### Chip Material:

- ◆GaN

### Lens Color:

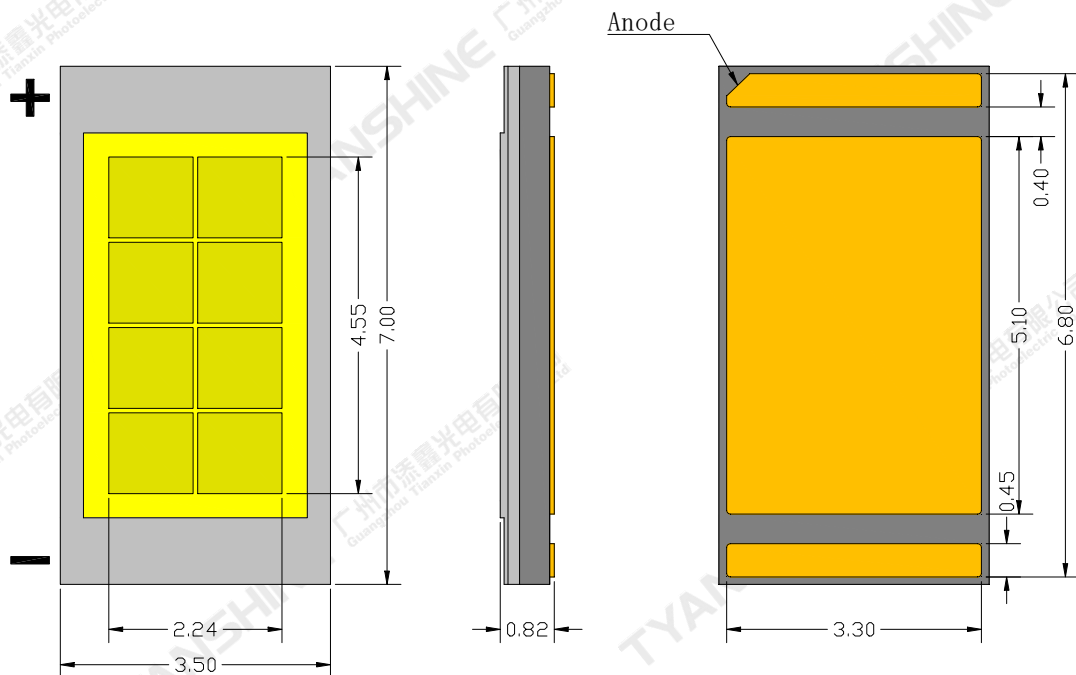
- ◆cold white

### Applications:

- ◆Automobile lighting

|          |                         |          |            |      |        |
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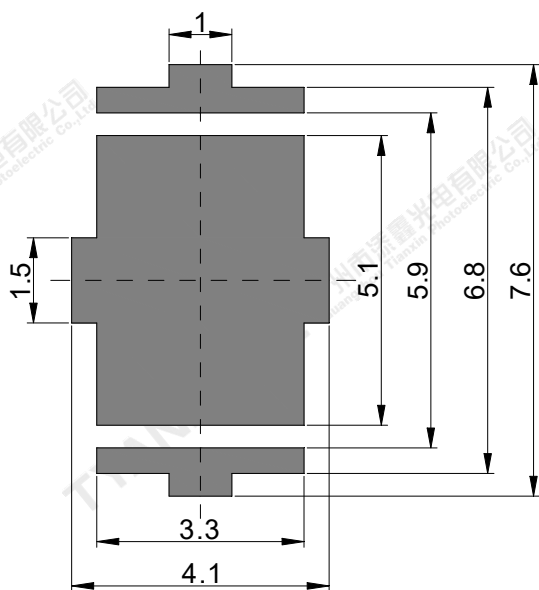
## Package Dimensions:



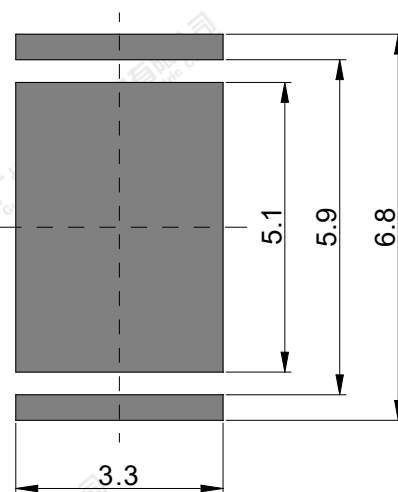
Top view

Side view

Bottom view



Recommended solder pad



recommended stencil pattern

## Notes:

- 1.All dimensions are in millimeters .
- 2.Tolerances unless otherwise mentioned are  $\pm 0.1\text{mm}$  .

|          |                         |          |            |      |        |
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## Absolute Maximum Ratings (Tc=25℃)

| Parameter                               | Symbol | Ratings                            | Unit |
|-----------------------------------------|--------|------------------------------------|------|
| Forward Current                         | IF     | 2000                               | mA   |
| Reverse Voltage                         | VR     | Not designed for reverse operation | V    |
| Power Dissipation                       | PD     | 28.4                               | W    |
| Junction Temperature                    | Tj     | 150                                | ℃    |
| Electrostatic Discharge Threshold (ESD) | ESD    | 2000                               | V    |
| Storage Temperature                     | Tstg   | -40~+70                            | ℃    |
| Operation Temperature                   | Topr   | -30~+125                           |      |

## Notes:

- Specifications are subject to change without notice.
- The data on this specification is for reference only and the actual data is in accordance with the acknowledgment.
- Precautions for ESD:  
STATIC SHIELD Electricity and surge damages the LED. It is recommended to use a wrist band or anti-electrostatic glove when handling the LED. All devices, equipment and machinery must be properly grounded.

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## Electrical Optical Characteristics (Tc=25°C)

| Parameter                           | Symbol          | Condition | Emitting Color | Min. | Typ. | Max. | Units   |
|-------------------------------------|-----------------|-----------|----------------|------|------|------|---------|
| Luminous Flux                       | $\Phi_v$        | If=2000mA | W              | 2900 | 3100 | 3450 | lm      |
| Forward Voltage                     | $V_f$           |           | W              | 12.0 | 12.5 | 13.0 | V       |
| Correlated Colour Temperature       | CCT             |           | W              | 5600 | 6500 | 7400 | K       |
| Viewing Angle at 50 % IV            | $2\theta_{1/2}$ | —         | W              | —    | 120  | —    | Deg     |
| Reverse Current                     | $I_R$           | —         | W              | —    | —    | —    | $\mu A$ |
|                                     |                 |           | W              | —    | —    | —    |         |
| Thermal Resistance Junction to Case | $R\theta_{J-C}$ | —         | —              | —    | 0.47 | —    | K/W     |
| Temperature Coefficient of Voltage  | $V\Delta F/T$   | If=2000mA | —              | —    | -5.7 | —    | mV/°C   |

## White light Color coordinate filing (IF=2.0A )

| Region | CCT Range |       | X1     | Y1     | X2     | Y2     | X3     | Y3     | X4     | Y4     |
|--------|-----------|-------|--------|--------|--------|--------|--------|--------|--------|--------|
|        | Min       | Max   |        |        |        |        |        |        |        |        |
| G10    | 5600K     | 6000K | 0.3299 | 0.3490 | 0.3221 | 0.3355 | 0.3215 | 0.3500 | 0.3296 | 0.3640 |
| F01    | 6000K     | 6500K | 0.3221 | 0.3345 | 0.3139 | 0.3207 | 0.3123 | 0.3330 | 0.3216 | 0.3490 |
| E11    | 6500K     | 6900K | 0.3140 | 0.3197 | 0.3090 | 0.3111 | 0.3069 | 0.3224 | 0.3124 | 0.3320 |
| D11    | 6900K     | 7400K | 0.3092 | 0.3098 | 0.3040 | 0.3009 | 0.3014 | 0.3118 | 0.3071 | 0.3212 |

## Notes:

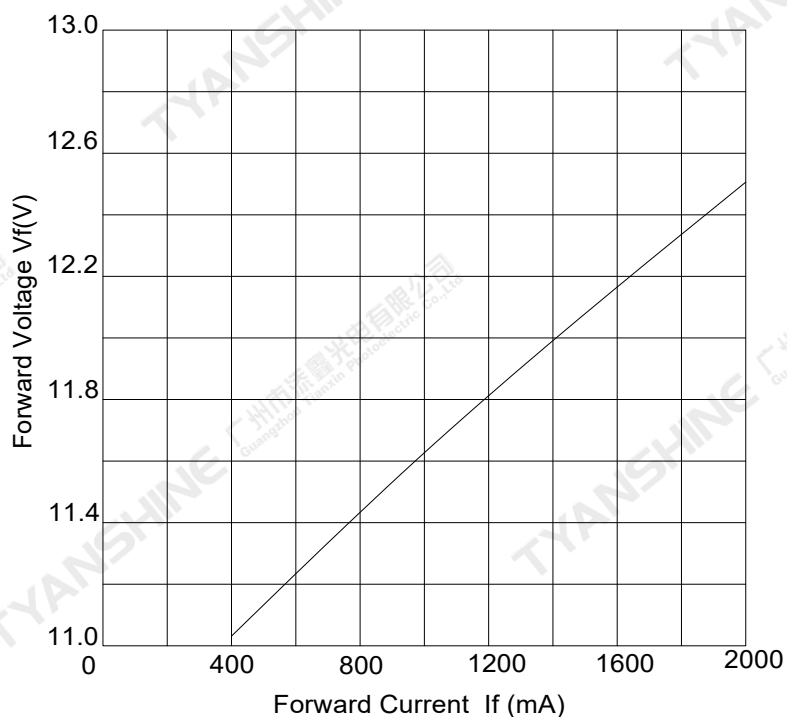
- 1.Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2. $\theta_{1/2}$  is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
- 3.The dominant wavelength ( $\lambda_d$ ) is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.
- 4.Luminous flux measurement tolerance:±15%.
- 5.Forward voltage measurement tolerance:±0.15V.

|          |                         |          |            |      |        |
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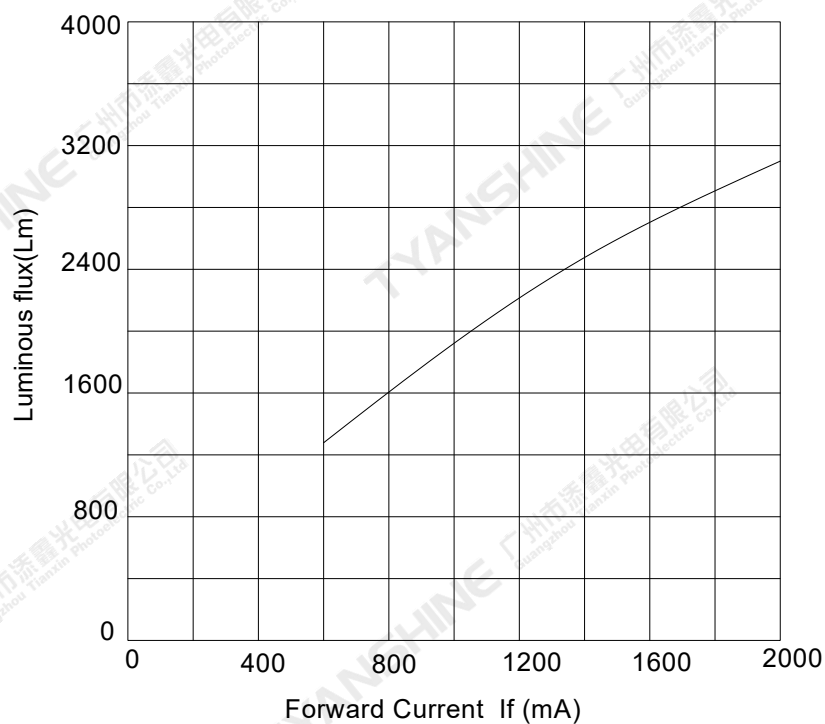
## Typical Electrical/Optical Characteristics Curves

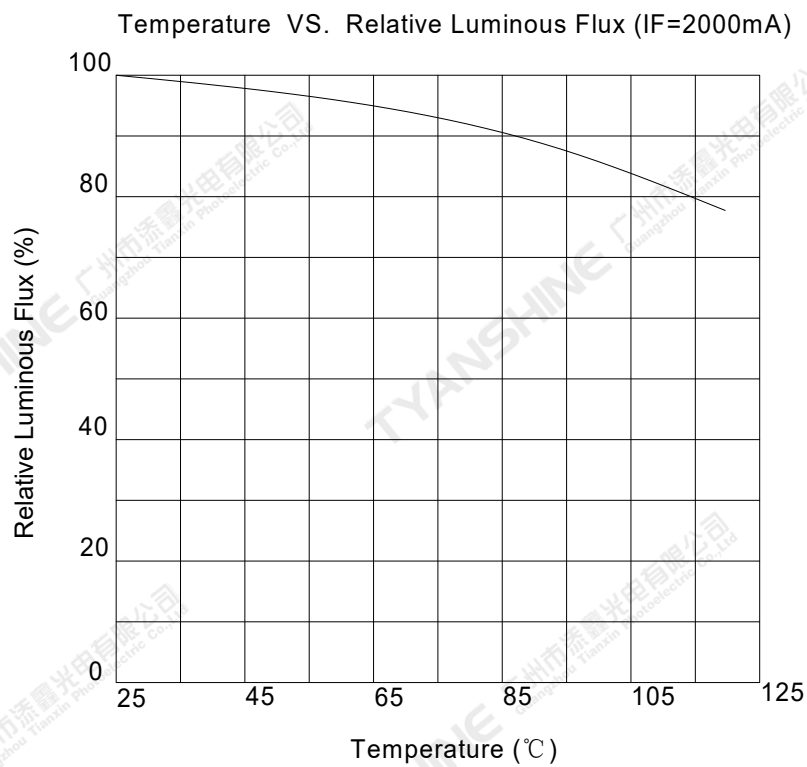
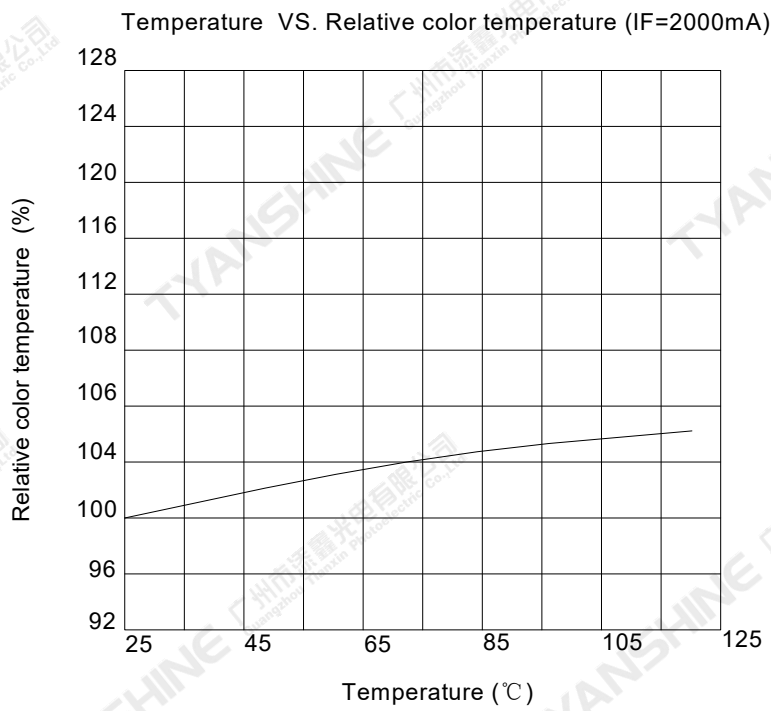
(25°C Ambient Temperature Unless Otherwise Noted)

Forward Current VS. Forward Voltage

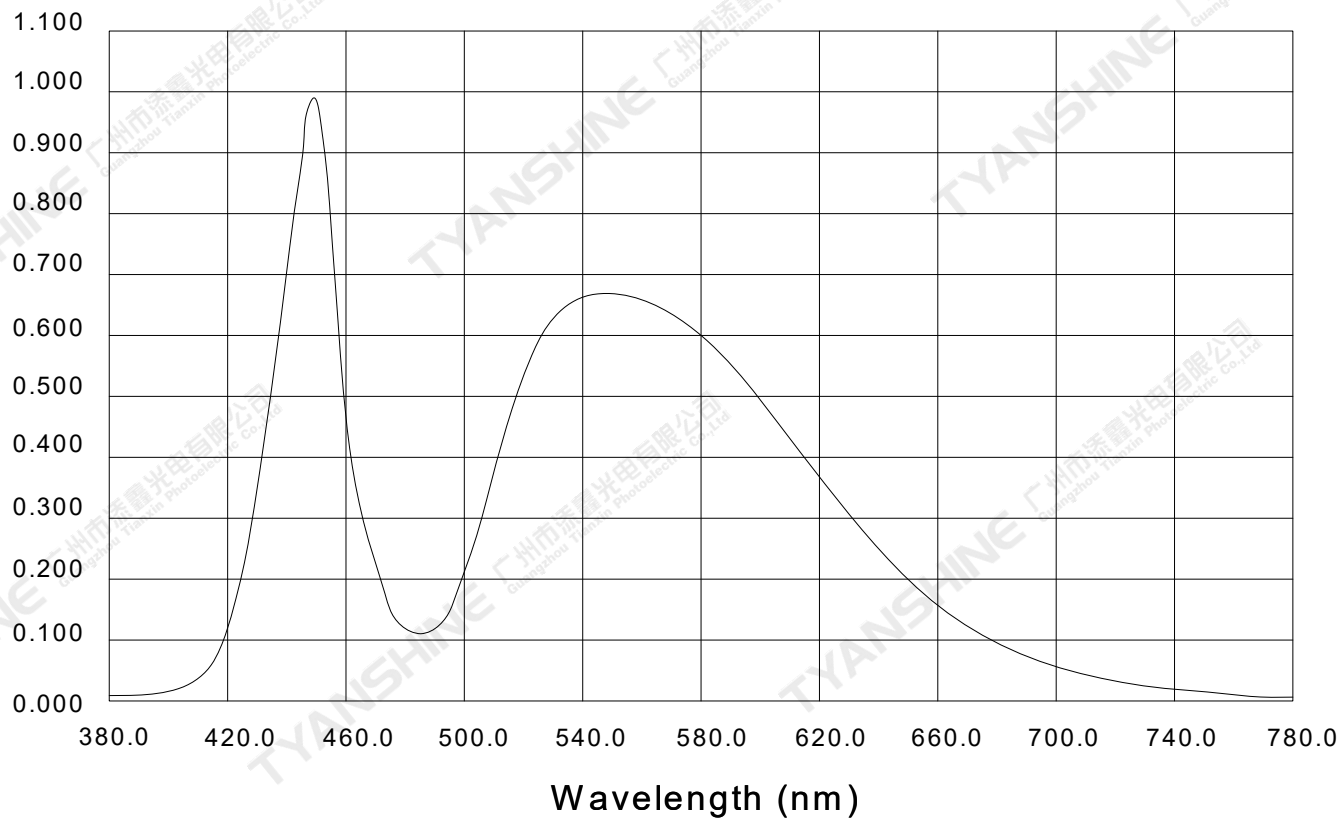


Forward Current VS. Luminous flux

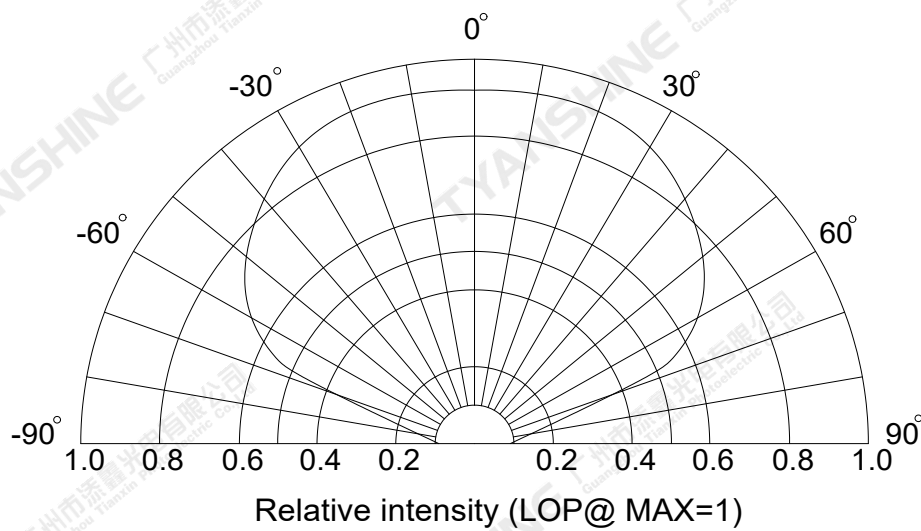




Relative Spectral Distribution



Beam Pattern



Notes:

1.  $2\theta_{1/2}$  is the off axis angle from lamp centerline where the luminous intensity is 1/2 of the peak value.
2. View angle tolerance is  $\pm 5^\circ$ .

|          |                         |          |            |      |        |
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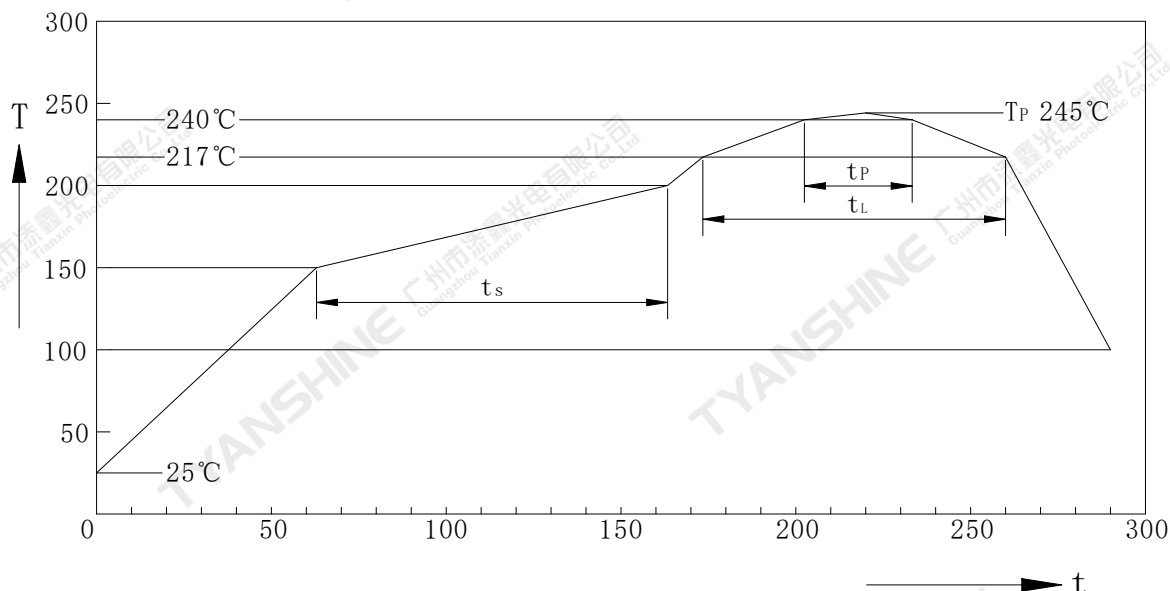
## Usage Precautions

### Storage Environment Condition

Temperature: 5°C ~ 30°C (41°F ~ 86°F)

Humidity: 60% RH Max.

### Soldering Condition



| Profil-Charakteristik<br>Profile Feature                           | Symbol | Pb-Free(SnAgCu)Assembly |                |         | Einheit<br>Unit |
|--------------------------------------------------------------------|--------|-------------------------|----------------|---------|-----------------|
|                                                                    |        | Minimum                 | Recommendation | Maximum |                 |
| Ramp-up Rate to Preheat<br>25°C to 150°C                           | -      | -                       | 2              | 3       | K/s             |
| Time $t_s$ $T_{Smin}$ to $T_{Smax}$                                | $t_s$  | 60                      | 100            | 120     | s               |
| Ramp-up Rate to Peak $T_{Smax}$ to $T_p$                           | -      | -                       | 2              | 3       | K/s             |
| Liquidus Temperature                                               | $T_L$  | 217                     |                |         | °C              |
| Time above Liquidus temperature                                    | $t_L$  | -                       | 80             | 100     | s               |
| Peak Temperature                                                   | $T_P$  | -                       | 245            | 260     | °C              |
| Time within 5°C of the specified peak<br>temperature $T_p \pm 5$ K | $t_p$  | 10                      | 20             | 30      | s               |
| Ramp-down Rate $T_p$ to 100°C                                      | -      | -                       | 3              | 6       | K/s             |
| Time 25°C to $T_p$                                                 | -      | -                       | -              | 480     | -               |

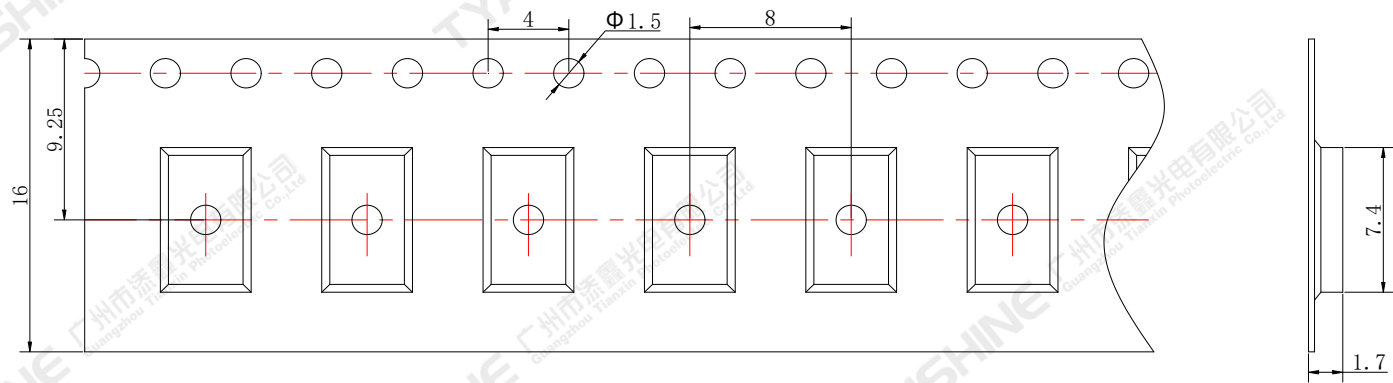
#### Note:

All temperatures refer to topside of the package, measured on the package body surface.



Dimensions For Cannulation And Packaging

Quantity: 1000PCS



Notes:

- 1. All dimensions are in millimeters.
- 2. Tolerances are  $\pm 2.0$  mm unless otherwise noted.
- 3. The products are packaged together with silica gel, Transport, not to the weight of welding LED light-emitting area, As a result of the weight of LED light-emitting zone in the quality of, Irresponsible of the Company.

|          |                         |          |            |      |        |
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